

REMARKS

The Office action mailed on 18 January 2006 (Paper No. 0106) has been carefully considered. Allowance of claims 7, 12, 29, 51 thru 53, 55, 57 thru 70, 72 thru 74 and 76, as stated in paragraph 21 of the Office action, is appreciated.

The Abstract is being amended to reduce its size in accordance the objection stated in the Office action. Claims 16, 17, 56, 77 and 79 are being canceled without prejudice or disclaimer, and claims 10, 20 and 22 are being amended. Thus, claims 7, 10, 12, 20 thru 22, 29, 48 thru 53, 55, 57 thru 70, 72 thru 74 and 76 are pending in the application.

In paragraph 3 of the Office action, the Examiner objected to the Abstract because it contains more than 150 words. As stated above, the Abstract is being amended to contain less than 150 words. Therefore, the objection to the Abstract should no longer apply, and should be withdrawn.

In paragraph 5 of the Office action, the Examiner rejected claims 48 thru 50 under 35 U.S.C. §112 (second paragraph) for indefiniteness. Specifically, in paragraph 6 of the Office action, with respect to claim 48, the Examiner stated that the word “means” is preceded by the word “layer”, but the Examiner further stated that “since no function is specified by the word(s) preceding ‘means’, it is impossible to determine the equivalents of the elements, as required by 35 U.S.C. 112, sixth paragraph” (quoting from paragraph 6 on page 3 of the

Office action). Applicants respectfully disagree with the Examiner's statement relative to failure to specify a function for the recited "layer means".

In the latter regard, 35 U.S.C. §112, sixth paragraph requires, that, when a "means" is recited in a claim, a function for that "means" must be specified. In claim 48 (*see* line 3), the "layer means" is recited as being "disposed upon said metal base for emitting electrons" (quoting from line 3 of claim 48). Thus, as recited in claim 48, the "layer means" performs the function of "emitting electrons". Therefore, it is submitted that the requirements of 35 U.S.C. §112, sixth paragraph, have been complied with, and the rejection under 35 U.S.C. §112 (second paragraph) for alleged indefiniteness should be withdrawn.

In paragraph 9 of the Office action, the Examiner rejected claims 10, 17, 56, 77 and 79 under 35 U.S.C. §102 for alleged anticipation by Saitoh *et al.*, U.S. Patent No. 6,376,976. In paragraph 17 of the Office action, the Examiner rejected claim 16 under 35 U.S.C. §103 for alleged unpatentability over Saitoh *et al.* '976. Claims 20 thru 22 are objected to for dependency upon a rejected base claim, but the Examiner stated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Independent claim 10 is being amended to include the recitation from dependent claim 16, which is being canceled. In that regard, dependent claim 16 was rejected under 35 U.S.C.

§103 based on the disclosure of Saitoh *et al.* '976.

In the latter regard, in paragraph 18 of the Office action, the Examiner admitted that Saitoh *et al.* '976 "fails to exemplify the needle-shaped conductive material in the electron-emitting material layer being in a range of 0.01 to 30% by weight based on a total weight of the electron-emitting material" (quoting from the sentence bridging pages 5 and 6 of the Office action). In paragraph 19 of the Office action, the Examiner further admitted that Saitoh *et al.* '976 "does not explicitly disclose a particular amount for the needle-shaped conductive material" (quoting from the first sentence in paragraph 19 of the Office action). The Examiner then stated that Saitoh *et al.* '976 "does disclose that the amount of the needle-shaped conductive material is more than the amount of a second material included in the electron-emitting material layer" (emphasis supplied -- quoting from paragraph 19 of the Office action). With respect to the latter statement, the Examiner cited column 5, lines 44-54 of Saitoh *et al.* '976, which merely states that the amount of the first particles (the needle-shaped particles) is more than that of the second particles, and that the first particles have a longer average length L than that of the second particles, while the first particles have smaller average diameter D than that of the second particles.

If the Examiner is correct in stating that Saitoh *et al.* '976 discloses that the amount of the needle-shaped conductive material is more than the amount of the second material included in the electron-emitting material layer, then that disclosure "teaches away" from

the subject matter of dependent claim 16, now incorporated by amendment into independent claim 10. That is to say, the subject matter now added by amendment to independent claim 10 relates to the fact that, in the present invention, the needle-shaped conductive material in the electron-emitting material layer is in a range of 0.01 to 30% by weight based on a total weight of the electron-emitting material. Thus, the needle-shaped conductive material, as recited in the recitation being added to independent claim 10, forms a relatively small percentage by weight of the total weight of the electron-emitting material. This is the converse of the disclosure in Saitoh *et al.* '976 (as proposed by the Examiner) that the needle-shaped conductive material is more than (that is, is a percentage by weight greater than) the amount of a second material included in the electron-emitting material layer.

Further considering the rejection of dependent claim 16, in paragraph 20 of the Office action, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a needle-shaped conductive material in the electron-emitting material layer of Saitoh *et al.* '976 to be in a range of 0.01 to 30% by weight based on a total weight of the electron-emitting material “since[,] where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum ranges by routine experimentation” (quoting from paragraph 20 of the Office action, which cites MPEP §2144.05). Applicants respectfully disagree with the latter statement.

Specifically, the latter statement is based upon the presumption, on the part of the

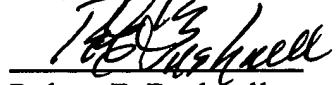
Examiner, that the inventors carried out “routine experimentation”, and that the advantages achieved by the present invention do not result, in any part, from the feature of the invention previously recited dependent claim 16, and now added by amendment to independent claim 10. This argument is reenforced by the fact that, as admitted by the Examiner in paragraph 18 of the Office action, Saitoh *et al.* ‘976 “fails to exemplify the needle-shaped conductive material in the electron-emitting material layer being in a range of 0.01 to 30% by weight based on a total weight of the electron-emitting material” (quoting from paragraph 18 of the Office action). In fact, Saitoh *et al.* ‘976 is totally silent as to the weight proportions of the electron-emitting material layer *vis-a-vis* the total weight of the electron-emitting material. Thus, it can be said that the feature now added by amendment to independent claim 10 constitutes a patentable distinction over the prior art, and over the disclosure of Saitoh *et al.* ‘976 in particular.

In paragraph 22 of the Office action, the Examiner merely objected to claims 20 thru 22 as being dependent upon a rejected base claim, stating that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, dependent claims 20 and 22 are being amended to appear in independent form. Accordingly, immediate allowance of claims 20 thru 22 should now be forthcoming.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

No fee is incurred by this Amendment.

Respectfully submitted,



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